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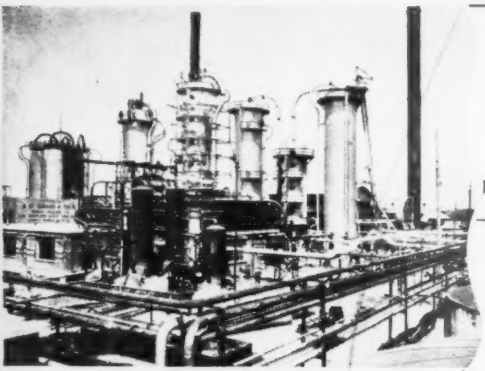

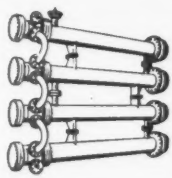

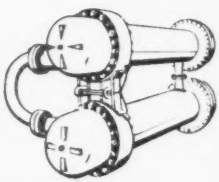

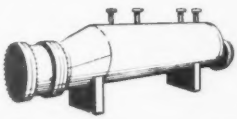

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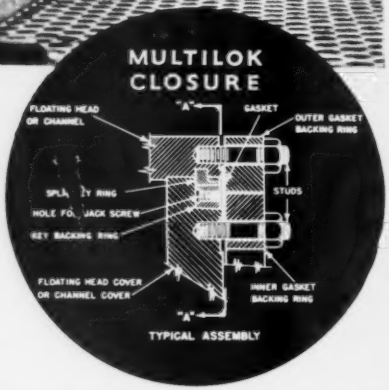

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BRITISH FUEL POLICY

THE RIDLEY COMMITTEE REPORT

Appointed in July 1951 by the Minister of Fuel and Power, the Committee on National Policy for the Use of Fuel and Power Resources, the chairman of which was Viscount Ridley, C.B.E., has now published its report.* Although mainly concerned with indigenous fuels, oil fuels were taken into account and the references in the report to petroleum are summarized here.

In dealing with the question of fuel demand, it is stated that consumption of oil fuels (excluding transport use) had risen from about 2 million tons prewar to 5 million in 1951. In oil supply, there is no general shortage but dependence on overseas sources and exchange difficulties make the rate of increase somewhat uncertain.

The total fuel consumption in the U.K. in 1951 is estimated at 214.2 million tons of coal and coal equivalent (one ton oil equals $1\frac{1}{2}$ ton coal). On this basis, black oil and burning oil consumption in 1951 was 7.5 million tons coal equivalent.

In calculating future demand, it is estimated that possible annual consumption for the period 1959-63 will be 248.4 million tons coal or coal equivalent, black and burning oils accounting for 14 million tons.

Industrial demand for oil will depend on relative price and efficiency as com-

*"Report of the Committee on National Policy for the Use of Fuel and Power Resources." Cmd. 8647. Pp. 242+5. London: HMSO, 1952. 6s 6d net.

pared with coal. Oil fuels are two to three times the price of coal per ton and in the evidence submitted by the Petroleum Industry Advisory Committee a table of coal-oil parities was given (Table I).

TABLE I
ESTIMATED COAL-OIL PARITIES

Industry and End-Use	*Estimated Coal/Oil Parity*
Central heating	2.0
Bakeries	2.5
Glass manufacture	2.0
Iron and steel manufacture:	
Open hearth furnaces	2.1
Soaking pits and reheating furnaces	2.0
Heat treatment furnaces	3.0
Forging furnaces	4.0
Nut and bolt furnaces	5.0
Industrial furnaces:	
Non-ferrous metal melting furnaces	3.0
Vitreous enamelling	2.0
Non-metallurgical furnaces	2.0
Steam raising:	
Laundries, dairies, breweries, etc.	1.8
Electricity stations:	1.5
Agricultural driers	1.8
Marine craft:	
Motor vessels	3.0
Steam vessels	1.5
Rail traction:	
Oil-fired steam locomotives	1.5
Main line diesel locomotives	5.0
Diesel shunting locomotives	12.0
Heavy oil engines:	
Public electricity supply	2.5
Other power stations	3.0
Gas manufacture	1.7
Other manufacturing:	
Brick kilns	1.8
Pottery kilns	2.5

On these figures, oil fuels are attractive over a limited field at present. Price changes and new techniques may change this position. It is also relevant that between the wars fuel oil was taxed to give coal a competitive advantage.

Matters of national policy as well as exchange problems are factors in greatly increasing oil supplies and the Committee is doubtful whether the rate of increase in consumption estimated for 1959-63 can be substantially raised.

Discussing the use of fuels in the transport industry, the Committee understood that there was little prospect of increasing the efficiency of steam locomotives with any fuel over the present 2 to 9 per cent. However, the diesel-engined locomotive is one form of motive power which should at least double that efficiency and the Railway Executive plan to provide a further 500 diesel shunting engines. From the fuel point of view, the committee does not think that these plans go far enough.

One point made in regard to the principles of fuel and power co-ordination is that the British Electricity Authority and the Gas Boards might use oil refinery by-products now wasted or inadequately used.

In regard to taxation, the Report refers to the tax imposed on fuel oil in 1933 to protect the market for coal and which remained in force until 1947. Evidence was given that the fear of such a tax may deter the oil companies from vigorously developing U.K. fuel oil markets. Such a tax would have a distorting effect on the pattern of fuel use, just as the tax of nearly £40 a ton on motor fuel encourages the use of vaporizing oil in agricultural tractors.

Some data on comparative fuel consumption of rail and road transport are given in an appendix and details are set out in Table II. The equivalents used are 1 gal diesel oil = 13 lb coal and 1 gal gasoline = 11½ lb coal.

TABLE II
FUEL CONSUMPTION FOR ROAD AND RAIL TRANSPORT

	Per vehicle mile	*Per passenger seat-mile*
Passenger services:	*Lb coal or coal equiv.*	
Rail-steam:		
Average service	10.8	0.21
Express	4.4	0.16
Branch line	19.6	0.48
Rail electric:		
Main line express	2.8	*not available*
Suburban	4.5	
London Transport	4.9	
Road—gasoline and diesel:		
Average for bus and coach service of LT, etc.	1.2	0.025
Road-diesel:		
LT double-deck bus	1.3	0.036
Tilling single deck coach	1.0	0.021
		Per capacity ton-mile
Freight services:		
Rail-steam:		
Average service	2.6	0.21
Fast freight	1.7	0.14
Slow freight	5.9	0.47
Road-gasoline and diesel:		
Approx average	1.2	0.15
Probable ranges:		
14-ton diesel lorry	1.4	0.10
3-ton gasoline lorry	1.0	0.33

PIAC Memorandum

Written evidence was submitted by the Petroleum Industry Advisory Com-

mittee and dealt with (1) gas, diesel, and fuel oils, (2) kerosine (burning oil), and (3) liquid gases.

In regard to the first category, a four-fold increase in U.K. consumption between 1938 and 1950 is attributed to: (a) the war-time creosote-pitch campaign, (b) the coal-oil conversion campaign, and (c) increasing post-war demand coupled with coal shortage.

The main use of burning oil is for domestic heating, lighting, and cooking, but as electricity is extended to rural areas, it is believed that consumption of kerosine will decrease. The estimate for 1956 is 530,000 tons compared with 590,000 tons in 1951.

Consumption of liquid gas in 1951 was about 40,000 tons, mainly for domestic purposes and to a limited extent (about 15 per cent) for industrial purposes. It is considered that by 1956, demand might rise to 100,000-150,000 tons.

The industry should be fully capable of meeting all demands for kerosine, gas oil, and diesel oil and in the case of fuel oils, provided conditions permit of profitable production, of supplying a country which has large coal reserves at its disposal.

The PIAC coal-oil parity estimates are given in Table I and the main reasons for giving oil a greater parity than the thermal equivalent are: (1) ease of control which ensures that fuel is burned only when heat is demanded, (2) higher combustion efficiency, (3) greater radiating power of the oil flame, and (4) elimination of "first stage" heat losses incurred in manufacture of derived fuels.

Subsidiary factors are reduction in labour for handling fuel and ash, lower furnace maintenance costs, etc.

It is stated that in 1938 gas, diesel, and fuel oils contributed 1.95 per cent of U.K. fuel and power requirements. In 1950, the figure was 4.87 per cent and is estimated to be 7.5 per cent in 1956.

U.S. NATURAL GAS INDUSTRY IN 1951

Marketed production of natural gas in the United States in 1951 according to a Bureau of Mines report (MMS 2099) rose to 7,457,359 million cubic feet, an increase of nearly 19 per cent over the 1950 figure, while gross production was about 14 per cent higher.

Average value at the wellhead was 7.3 cents (6.5 cents in 1950) per 1000 cubic feet and at point of consumption 29.8 cents (26.5 cents in 1950). For residential uses average was 76 cents.

Details from the report are:

	1950	1951
	Million cu. ft.	
Production:		
from gas wells	5,603,200	6,481,452
from oil wells	2,876,450	3,207,920
Total	8,479,650	9,689,372
Disposition:		
Marketed	6,282,060	7,457,359
Repressuring	1,396,546	1,438,827
Vented and wasted	801,044	793,186
Consumption		
Residential	1,198,369	1,474,725
Commercial	387,838	464,309
Field (drilling, pumping, etc.)	1,187,473	1,441,870
Fuel at petroleum refineries	455,096	537,774
Other, including electric utility plants	2,797,628	3,183,884*

*Includes 426,423,000,000 cu. ft. used in production of carbon black.

Consumption increased by nearly 18 per cent, the largest rise in individual use being 23 per cent for residential purposes. Consumers were 21,444,000 residential, 1,614,000 commercial.

Detailed statistics of U.S. natural gas for the years 1936 to 1950 are now available in Bureau of Mines Information Circular 7644.

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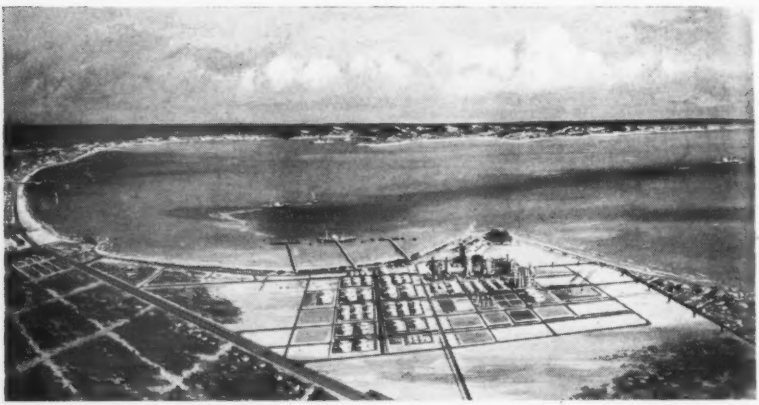
KWINANA REFINERY



An artist's impression of the proposed refinery at Cockburn Sound, near Fremantle.

Work began last October on the site of AIOC's new Kwinana refinery, 12 miles from Fremantle, Western Australia. Planned to be completed by the end of 1955, the £A40 million refinery—the largest in Australia—will have a capacity of three million tons of crude oil per year, and is expected to supply about 40 per cent of Australia's then estimated annual requirements.

Since the standstill at Abadan refinery in 1951, the Company has been obliged to ship oil products from the western hemisphere to satisfy the demand in Australasia. A refinery at Laverton, near Melbourne, operated by Commonwealth Oil Refineries Ltd. (a joint enterprise of AIOC and the Australian Federal Government until the latter disposed of its shareholding to the former in September 1952), has supplied a small part of the country's requirements, but its capacity is only 120,000 tons a year. With transport from the western hemisphere uneconomical, involving dollar expenditure, it was decided to build a refinery in Australia.

The geographic position of Western Australia influenced the choice of site. Large tankers will carry crude oil from the Middle East and smaller tankers take the refined products to the eastern Australian ports and New Zealand.

With the assistance of the Western Australian authorities the Kwinana site was eventually chosen by Anglo-Iranian's experts. Situated on Cockburn Sound, about 12 miles south of Fremantle, one of Australia's main bunkering ports, it can easily be connected by rail and pipeline with both Perth and Fremantle. Existing road connexions are excellent.

About 900 acres of comparatively level land covered with light scrub, well above sea level, with good load-bearing properties, offers an ideal site for industry. Alongside is sheltered deep water where the biggest tankers will be able to dock at any state of the tide.

The project consists of three major elements:

(i) The refinery and its ancillary services, with a capacity for processing three million tons of crude oil a year.

(ii) The port, capable of importing three million tons of crude oil a year and exporting from the refinery the

proportion of finished products to be dispatched by tanker.

(iii) A complete township including houses for employees together with amenities, shops, ancillary industries, and all normal municipal facilities. This will be a State government responsibility.

Main contractors will be the M.W. Kellogg Company and their British-registered subsidiary, Kellogg International Corporation, in association with a consortium of British contractors headed by Costain-John Brown Ltd.

Five main units of the latest design will comprise the refinery plant. Key items will be two atmospheric distillation units complete with stabilizers, solutizers, and soda washers. There will also be a vacuum distillation unit, a catalytic cracking unit and a platforming unit, a hydrofining unit, and small treatment units for sweetening and final treatment of the products.

From the input of three million tons of crude oil, the refinery will produce annually about 2.77 million tons of refined products, comprising, in its early stages at least, the main products needed for the Australasian market.

Fuel oil will be the largest bulk product, 1.55 million tons being produced annually. Other principal products will be 660,000 tons of motor spirit, 240,000 tons of diesel oil, 200,000 tons of gas oil, and 60,000 tons each of aviation turbine fuel and tractor vaporizing oil.

About 2.5 million gallons per hour of cooling water for the processes will be taken from the sea, and discharged back after circulation, maximum precautions being taken to ensure that no oil is allowed to escape into the sea. An additional three million gallons a day of fresh water for refinery and domestic use will be drawn from municipal sources.

Steam for the refinery will be generated in four water-tube boilers, of 75,000 lb/hr. capacity. More than 60 tanks will be built in the tank farm adjacent to the refinery.

Nearly a quarter of the estimated cost of £A40 million will be represented by wages to be paid in Australia. During the construction period the total labour force is expected to be about 1,000 at the end of six months, rising to a peak of about 3,000 men 12 months later, and then falling away to a permanent establishment of approximately 1,200.

A conservative estimate of materials required for the construction work is 55,000 tons; cast iron pipes and fittings 7,000 tons; cement 20,000 tons.

Jetties are to be constructed capable of accommodating simultaneously three of the 32,000 d.w. ton tankers now being built for the British Tanker Company.

The State authorities have accepted a tender for dredging an approach channel to the Sound through the Success and Parmelia sandbanks. Well over seven million cu. yards of sand will be removed in dredging the channel to a depth of 38 ft and a width of 500 ft.

Main offices and the administrative centre will be near the shore. Bathhouse facilities and canteen are to be located nearby, together with time and wages offices, first-aid and medical centre, fire station, and other facilities. Included in the administrative area will be the general office buildings, the marine offices, and the central laboratory.

The Western Australian State Housing Commission is developing a township some two-and-a-half miles from the refinery, to include accommodation for the refinery employees.

Products from the refinery will be distributed throughout Australia by Commonwealth Oil Refineries Ltd, for which a big expansion programme is planned. Bunkering is handled by BP (Australia) Ltd. The British Petroleum Company of New Zealand will also draw supplies from Kwinana.

KWINANA REFINERY PERSONNEL

Personalities of Kwinana construction. (Left to right) *A. E. Mason, general manager; C. H. E. Rebbeck, resident engineer; D. W. K. Barker, manager of Australasian Division AIOC Refineries Department; H. J. W. Braddick, London project superintendent.*

A. E. Mason, who has been in Perth for some months, is the General Manager of the Company's operations in Western Australia.

C. H. E. Rebbeck has been appointed resident engineer to take charge of construction of the new refinery, and arrived at the site in October. For the past three and a half years he has been resident engineer of the expansion programme at Grangemouth refinery.

As head of AIOC'S Australasian Division, Refineries Department, **D. W. K. Barker** is responsible for superintending the planning, construction, and subsequent commissioning of the refinery from the London head office. He is assisted by **H. J. W. Braddick**, project superintendent in the London office. Messrs Barker and Braddick have both visited the site of the new refinery.

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TRANSPORT AND PRODUCTIVITY

In the course of his presidential address to the Institute of Transport on 13 October, C. T. Brunner, F.Inst.Pet., said that unless drastic measures are taken to modernize British transport system, the country's future as a major industrial power is at stake. The drive for higher productivity calls for greater productivity in transport, as transport is an extension of the factory conveyor belt along which all things must pass on their way from the raw material stage to the finished product.

In the course of his remarks on railways, Mr Brunner dealt with the advantages of diesel locomotion and pointed out that if the railways were wholly converted to diesel traction, the requirements of diesel oil would be under $2\frac{1}{2}$ million tons, compared with the present consumption of 14 million tons of coal annually. Incidentally, the export of this coal set against the import of crude petroleum for the production of diesel oil at British refineries would yield a handsome surplus of foreign exchange.

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PETROLEUM IN PARLIAMENT

Oil Pollution Committee

The constitution of the committee "to consider what practical measures can be taken to prevent pollution by oil of the waters around the coasts of the U.K., and to report" was announced by the Minister of Transport in a written reply on 20 October. It includes as nominees of the oil companies, G. Noble, O.B.E., F.Inst.Pet., and R. Gillespie, C.B.E., and of the Ministry of Fuel and Power, Dr F. B. Thole, F.R.I.C., F.Inst.Pet.

DIESEL ELECTRIC DRILLING BARGE

The first diesel electric drilling barge to be built and equipped in the U.K. was recently launched at Port Glasgow. Designed for Shell's operations in Lake Maracaibo, Venezuela, the barge, to be used in conjunction with a permanent drilling platform erected at each well site, will be capable of drilling to depths of 15,000 ft. It houses the main diesel electric power plant together with other major and ancillary equipment and materials for drilling, and as a self-sustaining power unit will be able to operate for more than 30 days without refuelling. The barge, designated G.P.2, measures 158 ft by 80 ft, with a draft of 7 ft 6 inches. Stowage space includes provision for 290 tons of well casing and drill piping, 550 tons of fluid drilling mud, and 150 tons of diesel oil.

(A Shell photo.)

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WORLD PETROLEUM STATISTICS 1951

World production of crude petroleum in 1951 was 12.8 per cent greater than in 1950 according to figures* produced by the Bureau of Mines of the U.S. Department of the Interior. In the four tables reproduced here details are given of crude oil supply and demand, production of refined products, bunker oil deliveries, and estimated domestic demand for major products for those countries where reasonably complete figures are available. In most instances the demand is refinery production (including refinery fuel consumption) plus imports, minus exports, and plus or minus stock changes. Bunker fuels are included in the import and in the demand of the country where loaded.

Definitions used are:

Motor fuel—aviation and other gasolines and naphthas from crude, and natural gasoline, alcohol, or benzole blended.

Kerosine—all grades used for power, lighting, and range use.

Distillate fuel oil—gas oil, light diesel oil, and light heating oils.

Residual fuel oil—heavier residuals for bunkering or boiler fuel.

Lubricating oil—all grades, including oils used in grease manufacture.

*"World petroleum statistics–1951". Prepared by D. V. Hightower, WPS No. 39, 1952.

TABLE I

WORLD SUPPLY AND DEMAND—CRUDE PETROLEUM—1951

(Thousands of barrels)

Country	Production	Imports	Exports	Crude Runs to stills	Other demand and losses	Stock changes
NORTH AMERICA						
Canada	47,608	83,140	463	127,239	360*	2,686‖
Cuba	129	2,120	—	2,293	3	—47
Mexico	77,312	—	17,080‖	56,780	2,100	1,352
United States	2,244,529	179,073	28,604	2,370,404	17,274	7,320
Total	2,369,578	264,333	46,147	2,556,716	19,737	11,311
Daily Average	6,492	724	126	7,005	54	31
SOUTH AMERICA AND CARIBBEAN						
Argentina	24,465	20,900‖	—	46,300‖	450‖	—1,385‖
Bolivia	523	—	84	423	—	16
Brazil	691	615	—	1,280	26	—
Chile	759	—	868	—	12	—121
Colombia	38,446	—	28,578*	9,177	827	—136
Ecuador	2,708	—	1,253	1,703	8	—256
Neth. Antilles	—	310,875	1,825	309,401	—	—351
Peru	16,110	—	2,623	13,472	89	—74
Trinidad	20,843	16,014	1,829	34,878	70	80
Uruguay	—	6,317	—	6,317	—	—
Venezuela	622,216	—	502,968	114,444	2,896	1,908
Total	726,761	354,721	540,028	537,395	4,378	—319
Daily Average	1,991	972	1,480	1,472	12	—1
WESTERN EUROPE						
Belgium	—	7,201	66	6,390	—	745
Denmark	—	195	—	183	—	12
France	2,036	134,917	55	136,106	120	672
Western Germany	9,666	25,478	—	34,455	90	599
Italy and Trieste	136	54,014	—	54,511†	80	—441
Netherlands	4,960	45,234	—	50,386	60	—252
Norway	—	276	—	274	—	2
Portugal	—	2,935	—	2,678	—	257
Spain	—	2,616	—	2,642	—	—26
Sweden	—	7,730	—	7,500*	—	230*
United Kingdom	334	124,138	—	120,905	120	3,447
Total	17,132	404,734	121	416,030	470	5,245
Daily Average	47	1,109	—	1,140‖	1‖	15‖
MIDDLE EAST						
Bahrein Island	10,994	54,707	—	65,778	141	—218
Egypt	16,311	735	—	16,831	120	95
Iran	127,600‖	—	26,800	100,000‖	900*	—100
Iraq	65,122	—	59,077‖	3,982	1,220	843
Israel	—	5,631	—	5,359	—	272
Kuwait	204,910	—	196,335	8,537	165	—127
Lebanon	—	4,105	—	4,105	—	—
Qatar	18,009	—	17,919	—	90	—
Saudi Arabia	277,963	—	222,141	58,108	684	—2,970
Turkey	129	—	—	80	49	—
Total	721,038	65,178	522,272	262,780	3,369	—2,205
Daily Average	1,975	179	1,431	720	9	—6
OTHER ASIA						
China	730*	—	—	700*	30*	—
Formosa	22	1,802	—	1,980	—	—156
India-Burma and Pakistan	4,065	—	—	3,936‖	90	39
Japan	2,337	18,265	—	19,789	48	765
Total	7,154	20,067	—	26,405	168	648
Daily Average	20	55	—	72	1	2
OTHER AFRICA						
Algeria	49	—	49	—	—	—
Canary Islands	—	6,437	—	6,696	—	—259
French Morocco	561	18	—	561	11	7
Total	610	6,455	49	7,257	11	—252
Daily Average	2	18	—	20	—	—

TABLE I

WORLD SUPPLY AND DEMAND—CRUDE PETROLEUM—1951—(cont.)

(thousands of barrels)

Country	Production	Imports	Exports	Crude runs to stills	Other demand and losses	Stock changes
OCEANIA						
Australia	2	6,581	—	6,699	—	—116
British Borneo	37,498		14,459	77,625	1,090	1,523‖
Indonesia‡	57,199					
New Zealand	5	—	—	—	5	—
Total	99,704	6,581	14,459	84,324	1,095	1,407
Daily Average	260	18	40	231	3	4
TOTAL ABOVE COUNTRIES	3,936,977	1,122,069	1,123,076	3,890,907	29,228	15,835
Daily Average	10,786	3,074	3,077	10,660	80	43
USSR AND EASTERN EUROPE						
USSR§	292,000¶	—	—	283,000¶	9,000¶	—
Other Eastern Europe	54,000¶	800¶	—	53,800¶	1,000¶	—
Total	346,000	800	—	336,800	10,000	—
Daily Average	948	2	—	923	27	—
WORLD TOTAL	4,282,977	1,122,869	1,123,076	4,227,707	39,228	15,835
Daily Average	11,734	3,076	3,077	11,583	107	43

*Excludes reduced crude (3,659,000 barrels) delivered to pipeline and mixed with crude exported.
†Includes crude processed for export of products at Naples Refinery. §Includes Sakhalin.
‡Includes New Guinea production of 1,745,790 barrels. ‖Partly estimated. ¶Estimated.

TABLE II

PRODUCTION OF MAJOR REFINED PRODUCTS BY COUNTRIES, 1951*

(thousands of barrels)

Country	Motor fuel	Kerosine	Distillate fuel oil	Residual fuel oil	Lubricating oil	Total Major products
NORTH AMERICA						
Canada	54,487	8,586	21,691	30,565	1,982	117,311
Cuba‡	817	560	509	504	14	2,404
Mexico	13,823	5,284	5,424	31,500	206	56,237
United States	1,139,511	135,742	475,801	469,377	61,489	2,281,920
SOUTH AMERICA AND CARIBBEAN						
Argentina	13,400‖	5,600‖	6,200‖	17,100‖	700	43,000
Bolivia	245	62	38	72	—	417
Brazil	430¶	100¶	240¶	410¶	—	1,180
Colombia	2,165	414	583	6,543†	53	9,758
Chile	—	—	—	—	—	—
Ecuador	571	132	237	743	—	1,683
Neth. Antilles	48,732	17,647	35,448	201,088	1,450	304,365
Peru	5,387	1,490	1,570	5,797	80	14,324
Trinidad	7,174	3,402	5,235	18,586	3	34,400
Uruguay	1,469	944	708	2,925	—	6,046
Venezuela	18,113	3,618	23,558	65,131	732	111,152
WESTERN EUROPE						
Belgium	1,452	100	1,168	3,024	—	5,744
Denmark§	—	—	—	—	—	—
France	32,385	2,444	20,844	67,450	2,368	125,491
Western Germany	12,917	397	8,993	5,111	2,610	30,028
Italy and Trieste	11,732	3,635	10,594	23,369	619	49,949
Netherlands	14,140	1,450	10,349	19,212	408	45,559
Norway	50	—	52	25	59	186
Portugal	596	488	595	968	27	2,674
Spain	761	149	664	1,074	—	2,648
Sweden	1,600¶	400¶	1,000¶	3,800¶	150¶	6,950
United Kingdom	25,618	2,016	22,832	57,889	2,892	111,247
MIDDLE EAST						
Bahrein Island	17,646	6,619	9,733	29,565	—	63,563
Egypt	1,771	1,626	854	11,234	—	15,485
Iran	21,400‖	10,000‖	16,900	44,400‖	—	92,700
Iraq	800¶	570¶	530¶	1,820¶	—	3,720
Israel	933	759	881	2,513	—	5,086
Kuwait	143	51	1,698	6,404	—	8,296
Lebanon	1,019	489	749	1,777	—	4,034
Saudi Arabia	12,146	4,675	13,924	26,108	—	56,853
Turkey	7	—	22	16	—	45

TABLE II

PRODUCTION OF MAJOR REFINED PRODUCTS BY COUNTRIES, 1951*—(contd.)
(thousands of barrels)

Country	Motor fuel	Kerosine	Distillate fuel oil	Residual fuel oil	Lubricating oil	Total Major products
OTHER ASIA						
China	200*	70*	40*	300*	—	610
Formosa	501	201	375	824	—	1,901
India-Burma and Pakistan	970†	600†	625†	1,400†	110†	3,705
Japan	5,014	782	2,043	8,552	1,936	18,327
OTHER AFRICA						
Canary Islands	1,147	278	1,996	2,695	—	6,116
French Morocco	64	61	197	221	—	543
OCEANIA						
Australia	2,632	10	1,036	2,316	233	6,227
Indonesia and British Borneo	22,132	7,518	20,935	20,891	—	71,476
TOTAL ABOVE COUNTRIES	1,496,100	229,109	726,731	1,193,299	78,121	3,723,360
Daily Average	4,099	628	1,991	3,269	214	10,201

*From crude petroleum, natural gasoline blended and oils rerun.
†Includes reduced crude, 3,659,000 barrels.
‡Includes production from topped crude from Aruba.
§Only products asphalt and miscellaneous.
Partly estimated.
* Estimated.

TABLE III

BUNKER OIL DELIVERIES TO VESSELS ENGAGED IN INTERNATIONAL TRADE, 1951
(thousands of barrels daily)

Zone	Gas, diesel and other oils	Fuel oil	Total
United States (Continental)	20.8	174.8	195.6
Canada	1.2*	12.1*	13.3*
Central and South America	7.2	34.9	42.1
West Indies	25.1	80.3	105.4
West Africa	5.5	10.2	15.7
U.K. and Irish Republic	13.7	41.3	55.0
N. Europe (Including French and Atlantic Ports)	24.6	66.9	91.5
Mediterranean (Including Spain and Portugal)	18.5	44.6	63.1
Middle East (Including Egypt, Red Sea and Persian Gulf)	31.7	85.2	116.9
South and East Africa	3.5	9.1	12.6
India, Burma and Ceylon	2.4	16.9	19.3
East and South Asia (Including Indonesia and Japan)	15.5	34.6	50.1
Australasia	3.9	14.3	18.2
TOTALS	173.6	625.2	798.8
Total Foreign	152.8	450.4	603.2

*Estimate-Canadian figures not available.

TABLE IV

ESTIMATED DOMESTIC DEMAND FOR MAJOR PRODUCTS, 1951
(thousands of barrels)

Country	Motor fuel	Kerosine	Distillate fuel oil	Residual fuel oil	Lubricating oil	Total major products
NORTH AMERICA AND CARIBBEAN						
Alaska and Hawaii	3,982*	143	3,536	4,829	133	12,623
Canada	57,818	9,964	26,331	36,990	2,781	133,884
Central America	2,582	462	3,349	6,307	113	12,813
Cuba	3,823	566	1,264	9,469	222	15,344
Mexico	16,782	5,340	5,410	27,826	610	55,968
Puerto Rico	2,425	650	254	2,810	71	6,210
United States	1,090,354	123,719	449,140	563,771	42,304	2,269,288
Other W. Indies	2,710	460	9,090	31,275	200	43,735

TABLE IV

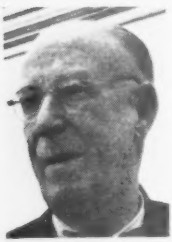
ESTIMATED DOMESTIC DEMAND FOR MAJOR PRODUCTS, 1951—(contd.)
(thousands of barrels)

Country	Motor fuel	Kerosine	Distillate fuel oil	Residual fuel oil	Lubricating oil	Total major products
SOUTH AMERICA						
Argentina	13,700	5,700	6,600	34,100	1,100	61,200
Bolivia	500	77	163	425	13	1,178
Brazil	17,150	2,300	5,080	13,175	950	38,655
Chile	2,357	478	1,005	5,355	190	9,385
Colombia	4,048	636	934	2,940	150	8,708
Ecuador	697	131	237	743	25	1,833
Peru	3,165	1,098	967	4,388	119	9,737
Uruguay	1,650	944	807	3,910	65	7,376
Venezuela	7,290	2,080	5,270	10,609	278	25,527
Other	200	70	130‡	—	30	430
WESTERN EUROPE						
Belgium and Lux.	7,493	416	3,966	7,602	666	20,143
Denmark	3,850	556	2,884	4,550	296	12,136
Finland	2,240	484	1,034	638	160	4,556
France	25,675	1,110	12,550	40,171	2,752	82,258
W. Germany	13,734	416	12,195	7,904	2,448	36,697
Greece	2,081	631	1,986	3,850	120	8,668
Iceland	420	18	673	480	24	1,615
Ireland	2,380	771	657	1,714	106	5,628
Italy and Trieste	7,169	1,938	7,437	25,602	1,112	43,258
Netherlands	6,150	2,050	6,410	13,710	530	28,850
Norway	2,320	370	4,375	5,200	270	12,535
Portugal	1,386	925	1,668	2,793	133	6,905
Spain	4,428	229	2,350	3,325	480	10,812
Sweden	7,694	2,320	10,100	12,850	620	33,584
Switzerland	2,846	690	4,634	497	372	9,039
U. Kingdom	52,875	13,984	27,483	43,910	5,668	143,920
MIDDLE EAST						
Bahrein Island	90	50	983	6,587	12	7,722
Jordan	230	190	99	—	8	527
Iraq	900	880	970	2,000	100	4,850
Israel	1,559	891	936	2,888	98	6,370
Kuwait	139	53	103	5,070	2	5,367
Saudi Arabia	175	52	1,520	8,056	13	10,356
Syria-Lebanon	1,215	523	963	997	60	3,758
Turkey	2,090	1,325	1,100	340	248	5,103
OTHER ASIA						
Burma	665	291	225	232	47	1,460
Ceylon	979	488	1,188	3,761	55	6,471
India	8,050	8,623	5,685	6,547	1,290	30,195
Indo-China	844	259	249	194	74	1,620
Japan	5,210	810	2,430	13,410	1,775	23,635
Malaya	2,409	620	5,505	7,007	202	15,743
Pakistan	1,449	1,219	1,114	5,310	183	9,275
Thailand	970	415	900	—	85	2,370
AFRICA						
Algeria	1,815	454	1,029	5,809	169	9,276
Egypt	2,600	4,832	5,100†	18,900†	365†	31,797
Ethiopia	68	12	75	25	7	187
Fr. Morocco	2,139	273	1,069	1,706	122	5,309
Rhodesia and Nyasaland	1,130	215	220	—	70	1,635
Sp. Morocco and Tangier	249	45	320	2,310	33	2,957
Tunisia	621	244	594	675	67	2,201
Un. So. Africa	11,500	3,290	3,175	3,220	590	21,775
OCEANIA						
Australia	18,993	3,582	8,513	10,322	1,239	42,649
Indonesia	3,651	2,550	2,612	2,925	180	11,918
New Zealand	5,131	243	1,375	2,248	223	9,220
Philippine Is.	4,077	1,210	2,372	2,404	210	10,273
TOTAL ABOVE COUNTRIES	1,453,462	215,365	670,393	1,046,661	72,636	3,458,517
Daily Average	3,982	580	1,837	2,868	199	9,476

*Territory breakdown available.
†Includes transit trade in ship bunkers.
‡Includes some residual fuel oil.

PERSONAL NOTES

W. E. Bish (left), supervisor of road transport operations of Vacuum Oil Co Ltd, receiving from Miles B. Reid (director) a gold watch presented by the Board of Directors to mark his forty years with the Company. Extreme right is H. W. Rocke, managing director, with Charles Lawrie, director.



George Walter, F.Inst.Pet., who is retiring after 20 years' service with the Iraq Petroleum Company, has for the last three years been in charge of the Tripoli refinery. He joined the Company in 1932 and was camp organizer and in charge of Commissariat for the original 12-inch pipe-line. On completion of the line he became terminal superintendent at Tripoli and loaded the first tanker. He later was transferred to a similar post at Haifa and in 1940 took charge of the Baghdad office, where he remained until 1949.

Hans Ornstein, right, deputy chairman of BP Benzin-und Petroleum Gesellschaft mit beschrankter Haftung, Hamburg, a subsidiary of Anglo-Iranian, recently celebrated 40 years service in the oil industry. At the age of 20 he first obtained employment with the OLEX petroleum G.m.b.H., Berlin.

A. C. Hare, A.M.Inst.Pet., late area civil engineer Iraq Petroleum Co. Ltd, has been appointed British Colonies representative of African Petroleum Terminals Ltd.

Professor J. A. C. Ritson, O.B.E., D.S.O., M.C., has been elected President of The Institution of Mining and Metallurgy and will take office at the general meeting to be held on 28 May 1953.

7000 Years with Vacuum

On 24 October, 250 members of Vacuum Oil Company's "20 Years" club dined in London under the chairmanship of F. P. Barribal, and nearly 7,000 years' service with the Company was represented. Similar functions were held in the provinces, in the U.S.A., and in other parts of the world.

U.K. PETROLEUM CONSUMPTION AND SUPPLIES 1951

Deliveries of petroleum products for inland consumption in the United Kingdom in 1951 were 10.5 per cent higher in the aggregate than in 1950 according to figures included in the latest edition of the Ministry of Fuel and Power Statistical Digest.* The tables in the digest cover varying periods, in some cases from 1920, but the extracts given here are limited to the period 1949-51. From Table I, it will be noted that the largest percentage increase was for kerosine (15.4 per cent), with fuel oil 14.7 per cent, and motor spirit 5 per cent. In Table II, the utilization of gas oil, diesel oil (other than for diesel-engined road vehicles), and fuel oil is detailed and it is worthy of note that high rates of increase are given for agricultural power (22 per cent), stationary engines (17.5 per cent), and central heating (16.5 per cent).

The extent to which the U.K. needs of refined products is met by imports from overseas is indicated in Table III, which shows that the quantity imported in 1951 was only slightly less than in 1950. However, from Tables IV and V, it is obvious how great has been the contribution of home refineries to the country's refined petroleum needs.

Excluding the production from distillation plants, mainly of petroleum spirits, the U.K. refineries produced nearly 77 per cent more products than in the previous year. Details for the operations of distillation plants in 1951 are not yet available.

The increase in home-refining operations is reflected in the increased import of crude and process oils, as shown in Table VI, which also indicates that although U.K. production of crude petroleum has remained constant over recent years, there has been a continued slight decline in the output of crude shale oil.

Table VII records the quantities of petroleum products exported from the U.K. and in the three years concerned there have been remarkable increases. The amounts of fuel oil shipped as bunkers has also continued to increase.

Average c.i.f. values of imported crude and refined products showed considerable increases in 1951 in comparison with 1950, the figures being given in Table VIII. Crude petroleum was 19.3 per cent higher than in 1950,

TABLE I

U.K. DELIVERIES OF PETROLEUM PRODUCTS FOR INLAND CONSUMPTION

	1949	1950	1951
	Thousand tons		
Aviation spirit	288	282	335
Motor spirit	4,671	5,195	5,454
Industrial spirit	65	81	98
White spirit	148	149	150
Kerosine	1,525	1,539	1,776
Gas-diesel oils:			
For road vehicles	924	1,034	1,126
Gas works*	510	539	557
Other inland	978	1,056	1,155
Total	2,412	2,629	2,838
Fuel oil:			
Refinery oil†	499	650	872
Other inland	2,795	3,092	3,417
Total	3,294	3,742	4,289
Lubricating oils‡	714	749	797
Bitumen	545	621	746
Paraffin wax	40	43	50
Miscellaneous§	135	246	356
Grand total	13,837	15,277	16,889

*Including gas plants at industrial establishments.

†Including small quantities of other products and also purchased oils in addition to fuel produced and used in the same refinery.

‡Including gas-diesel and fuel oils used in grease manufacture, and small quantities subsequently exported.

§Butane, propane, and other gases, and feedstock for petroleum chemical plants.

*"Ministry of Fuel and Power Statistical Digest 1951". London: HMSO, 1952. Pp. 221. £1 1s. net.

while refined products in the aggregate rose by 21.2 per cent. The highest increase was nearly 50 per cent for lubricating oils.

Table IX summarizes information regarding overseas production of British and British-Dutch companies. There were slight reductions in 1951 in both crude output and refinery operations. In the case of crude output, the loss was more than accounted for by reduced Middle East output due to the loss of Persian production. The same reason accounted also for the reduction in refinery output.

Figures for the output of motor benzole and coal tar products are set out in Table X.

Capital Expenditure

During 1950 the petroleum industry in the U.K. spent £16,093,000 on plant, machinery, and vehicles, and £6,084,000 on land and buildings, excluding about £10 million spent on new refineries not in production during the year. The corresponding expenditure for 1949 was £11,150,000 for plant, etc., £1,806,000 for land and buildings, and about £5 million for new refineries.

In September 1950 there were 10,041 persons employed in petroleum and shale oil refining, compared with 9,142 in the previous year. Wages paid were £4 million in 1950, and £3,563,000 in 1949.

TABLE II

U.K. INLAND DELIVERIES OF GAS-DIESEL AND FUEL OILS

(excluding oil for diesel-engined road vehicles)

	1949	1950	1951
	Thousand tons		
Burning:			
Central heating	292	365	425
Bakeries	63	64	67
Glass	192	197	199
Ceramics*	—	—	32
Steel manufacture	794	885	969
Industrial furnaces	349	389	418
Steam raising, etc.	955	982	1,061
Agriculture heaters and driers†	—	—	66
Total burning	2,645	2,882	3,237
Power:			
Agriculture	49	55	67
Marine	322	430	503
Rail traction	28	22	23
Stationary engines	280	292	343
Mobile diesel engines	195	219	235
Total power	874	1,018	1,171
Manufacture:			
Gas	510	540	557
Other manufacture	56	58	43
Total manufacture	566	598	600
Other consumption	697	839	993
Grand total	4,782	5,338	6,001

*Included in "Other manufacture" prior to 1951.

†Prior to 1951 included under "Steam raising, etc." partly under "Power: agriculture".

TABLE III

U.K. IMPORTS OF PETROLEUM PRODUCTS

	1949	1950	1951
	Thousand tons		
Aviation and motor spirits	4,465.2	4,056.7	3,386.0
Other spirits	108.6	107.3	182.4
Kerosine	1,586.8	1,422.8	1,873.4
Gas oil	1,741.0	1,403.7	1,488.1
Fuel and diesel oils	3,272.1	2,427.8	2,407.0
Lubricating oils	298.1	488.4	460.7
Paraffin wax	18.1	29.8	58.8
Other sorts*	0.5	3.7	2.1
Total	11,490.4	9,940.2	9,858.5

*Excluding bitumen and petroleum coke.

TABLE IV

U.K. PETROLEUM REFINERY OPERATIONS

(excluding distillation plants)

	1949	1950	1951
	Thousand tons		
Throughput of crude and process oils*	6,163.8	9,283.7	6,430.0
Production:			
Aviation and motor spirits*	870.1	1,478.0	2,923.2
Industrial spirit*	4.1	3.4	3.2
White spirit	47.1	48.8	51.6
Kerosine:			
Burning oil	120.0	147.6	226.6
Vaporizing oil	8.0	12.9	18.5
Gas-diesel oils	1,192.2	1,890.7	3,055.1
Fuel oil	2,391.8	3,805.2	7,650.0
Lubricating oils	375.9	427.3	412.1
Bitumen	554.8	636.1	746.2
Propane	1.3	1.4	1.8
Butane	19.6	22.3	17.6
Paraffin wax	14.8	15.6	15.1
Refinery fuel†	388.3	539.5	852.9
Miscellaneous products and loss†	175.8	254.9	456.1
Total	6,163.8	9,283.7	16,430.0

*Excluding throughput of distillation benzines and output, mainly of motor and industrial spirits, of distillation plants.

†Excluding amounts used in distillation plants and in shale oil refining.

TABLE V

U.K. PETROLEUM REFINERY OPERATIONS (including distillation plants)

	1948	1949	1950
	Thousand tons		
Throughput:			
Imported crude and process oils*	4,388.5	6,104.5	9,371.1
Indigenous crude oil	39.4	47.8	45.9
Indigenous shale oil	109.9	112.3	112.1
Total	4,537.8	6,264.6	9,529.1
Production:			
Aviation and motor spirits	617.9	898.8	1,639.8
Industrial and white spirits	95.0	107.9	128.1
Kerosine	120.9	130.4	161.4
Gas-diesel oils	887.6	1,207.7	1,193.7
Fuel oil	1,358.1	2,316.9	3,772.5
Lubricating oils	362.9	372.2	421.9
Bitumen	526.7	555.7	637.2
Refinery fuel†	399.1	491.1	595.8
Butane	13.9	19.7	26.0
Propane	1.2	1.2	1.4
Miscellaneous products	42.5	65.9	75.1
Losses and changes in unfinished stocks	112.0	97.1	156.2
Total	4,537.8	6,264.6	9,592.1

*Including distillation benzines.

†Mainly fuel oil and refinery gases. Includes only products used in same refinery.

TABLE VI

U.K. TOTAL SUPPLIES OF CRUDE OILS

	1949	1950	1951
	Thousand tons		
Imported crude and process oils	6,052.9	9,291.2	16,840.5
Indigenous production:			
Crude petroleum	45.6	45.7	45.2
Shale oil	112.5	111.6	104.5
Total	6,211.0	9,448.5	16,990.2

TABLE VII

U.K. PETROLEUM EXPORTS, RE-EXPORTS, AND BUNKERS

	1949	1950	1951
	Thousand tons		
Aviation and motor spirits	99.7	138.0	180.0
Other spirit	5.0	12.0	40.0
Kerosine	30.9	41.0	54.0
Gas oil	51.7	86.0	162.0
Fuel and diesel oils	181.0	782.0	2,670.0
Lubricating oils	129.6	135.0	186.0
Paraffin wax	1.7	3.0	1.0
Other sorts*	2.5	9.0	12.0
Total	502.1	1,206.0	3,305.0
Bunkers†	2,031.7	2,228.4	2,951.8

*Excluding bitumen and petroleum coke.

†For vessels engaged in foreign trade and for fishing vessels.

TABLE VIII

U.K. AVERAGE C.I.F. VALUES OF IMPORTED PETROLEUM AND PETROLEUM PRODUCTS

	1949	1950	1951
	£ *per ton*		
Crude and process oils	6.64	7.99	9.53
Refined products:			
Aviation and motor spirits	11.97	14.62	17.50
Other spirit	12.52	15.72	17.19
Kerosine	9.72	12.20	13.64
Gas oil	8.54	10.83	12.80
Fuel and diesel oils	5.02	6.22	8.17
Lubricating oils	17.36	20.74	31.05
Paraffin wax	49.63	62.32	76.50
Other sorts*	76.88	116.24	58.40
Total, refined products	9.37	12.18	14.76

*Excluding bitumen and petroleum coke.

TABLE IX

OVERSEAS PRODUCTION OF CRUDE PETROLEUM AND PRODUCTS BY BRITISH AND BRITISH-DUTCH COMPANIES

	1949	1950	1951
	Thousand tons		
Crude petroleum	72,311	85,927	84,681
Refined products:			
Aviation and motor spirits	11,381	13,026	12,007
Other spirits	245	288	267
Kerosine	3,736	4,005	3,795
Gas-diesel oil	11,150	13,523	12,002
Fuel oil	32,199	36,359	35,791
Lubricating oils	250	460	534
Bitumen	1,156	1,565	1,816
Miscellaneous products	3,828	4,325	5,448
Refinery fuel and losses	5,048	5,515	5,329
Total refinery throughput	68,993	79,066	76,989

TABLE X

U.K. PRODUCTION OF BENZOLE AND COAL TAR PRODUCTS

	1949	1950	1951
	Thousand gallons		
Motor benzole	58.8	55.3	49.9
Motor and aviation spirits:			
L.T. carbonization	1.0	1.0	1.1
Hydrogenation	93.2	39.3	34.8
Total	99.0	95.6	85.8
	Thousand tons		
Road tar	648	616	608
Creosote-pitch mixture	425	580	632

★ ★ ★

MSE Centrifuges are the main item in a leaflet recently issued by Measuring & Scientific Equipment Ltd. Copies of this and of other detailed catalogues are available from the firm at Spenser Street, London, S.W.1.

IP—FRENCH CO-OPERATION ON STANDARDIZATION

M. Chové learns more about international standardization from H. Hyams, chairman of the ASTM/IP Co-ordination Committee and the foremost exponent of the subject.

During October a delegation from the Bureau de Normalisation de Pétrole (BNP) paid a visit of several days to the offices of the Institute in order to study petroleum testing standardization.

The Bureau has been set up by the Union des Chambres Syndicales de l'Industrie du Pétrole (UCSIP), the central organization of all oil companies in France, and the equivalent of our war-time Petroleum Board.

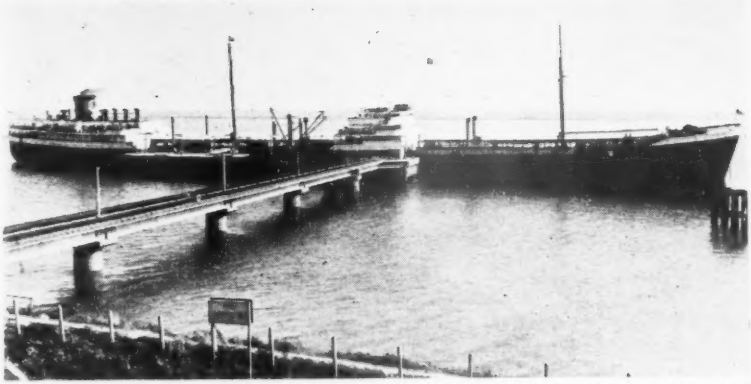
The French delegation consisted of M. Chové (president of BNP and délegué general of UCSIP); M. Piet-Beaupré (Direction des Carburants); M. Sigwalt (Cie Française de Raffinage); and M. Brunet (Shell Française). M. Orsal (vice president of BNP and Technical director of UCSIP) had to cancel his visit at the last moment. During their stay the delegates were given full information regarding the IP standardization machine, its scope and operations; they attended a full meeting of the Standardization Committee, two Sub-Committee meetings, and discussions with groups and panels.

The delegates were also entertained to a luncheon under the chairmanship of Colonel S. J. M. Auld, O.B.E., M.C., D.Sc., a past-president of the Institute. Welcoming the guests on behalf of the Institute, Col. Auld first expressed the regrets of Mr H. S. Gibson, the president, for his inability to be present. He assured the delegates that the IP would support them in matters of standardization and in developing ways and means of increasing the understanding between the IP and its French colleagues.

The IP had pledged itself to international standardization. In Europe this was becoming more and more important, particularly to Britain and to France. That day, concluded Col. Auld, they had with them men who represented the oil industry of France and it was the job of the Standardization Committee to show them how standardization was effected in Britain.

M. Chové, in reply, said that oil production was vital to the maintenance of western civilization. The oil industry must of necessity be international, and standardization problems must be considered first from this viewpoint. It would be easier if the French would adopt barrels and gallons, but they preferred to adhere to the metric system. But international standards must be adopted as far as possible and he expressed his thanks for this first step towards this end.

M. Brunet, Col. Auld, M. Chové, M. Sigwalt, M. Piet-Beaupré, and F. L. Garton.



The largest oil jetty in the Thames Estuary built to the order of London and Thames Haven Oil Wharves Ltd by John Mowlem and Co at a cost of £300,000. The vessel alongside is Shell's 28,000-ton tanker Velletia. (A Shell photo.)

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HD OILS

The Director of Chemical Inspection, Ministry of Supply, has approved the following oils as complying with the requirements of Defence Specification DEF 2101, Grade OMD 110:

Supplier's Nomen.	*Supplier*
"Germil" 303	Germ Lubricants Ltd.
"Silkoline" Necta 30	Dalton & Co. Ltd.
"Auto Deso H.D.30"	Sternol Ltd.
Shell Oil S.3164 / Shell Oil S.3508	Shell-Mex and B.P. Ltd.
"Brit-Gulf" H.D.30	Gulf Oil (Great Britain) Ltd.
Primor—MIL. 30H.D.	Manchester Oil Refinery Ltd.
"B.P. Energol Diesel D-SAE.30"	Anglo-Iranian Oil Co. Ltd.
"B.P. Energol Diesel MD". VD.235	Anglo-Iranian Oil Co. Ltd.
"Solco HD-SAE. 30"	Fina Petroleum Products Ltd.
Appennol H.D.30	J. English & Co. Ltd.
"Ideal" SAE.30	Arthur Brown & Co. Ltd.
Oil 3-D.M.	Vacuum Oil Co. Ltd.
"Germil" 504*	Germ Lubricants Ltd.

*Grade OMD 330

ANNUAL DINNER 1953

The Annual Dinner will take place at Grosvenor House on Wednesday, 25 February 1953.

Tickets will again be £2.2.0 each and decorations will be worn.

Applications for tickets should be sent to the General Secretary together with a remittance.

Further details regarding speakers will be announced shortly.

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COMPANY PRODUCTION—CRUDE OIL

	1952 *Sept.*	*Oct.*
	Brl.	
Kern Oil Co.		
California	102,828	
Trinidad	72,947	
British Controlled Oilfields Ltd.:		
Venezuela:		
Western area	13,344	13,659
Central area	14,274	15,136
Trinidad Petroleum Development Co.	286,094	295,315
	tons	
Kuwait Oil Co.	3,011,285	
Iraq Petroleum Co. (Kirkuk field)	1,662,462	
Basrah Petroleum Co. (Zubair field)	223,797	
Petroleum Development (Qatar) Ltd. (Qatar, Persian Gulf)	260,204	

THE COUNCIL OF BRITISH MANUFACTURERS OF PETROLEUM EQUIPMENT

Speaking at the luncheon preceding the Annual General Meeting on 9 October, Douglas Wilson, chairman of the CBMPE, after welcoming the guests, referred to the growth of the Council in the nine years of its existence. They had proved their ability to supply the needs of the oil companies, but there was still more to be done. British chemists, scientists, technicians, and engineers ranked among the best in the world. Their potential resources should be mobilized and used to the maximum extent.

There had been some uneasiness that the present expansion of the oil industry was transitory but, said Mr Wilson, it did not need much imagination to see that this was a great and growing industry. He was sure they were on the threshold of many new developments.

Lord Brabazon of Tara, M.C., P.C., replying to the toast of "Our Guests" referred to the gathering as an "oleaginous oligarchy" and delivered an entertaining account of his reminiscences of the petroleum industry. He recalled the time when motor fuel was retailed in the backyard of the ironmonger's shop and compared it with the modern delivery machine which is not only a pump but a calculating machine as well.

Referring to fuels for jet engines, Lord Brabazon said attempts were being made to bring about the use of motor spirit in these engines in place of kerosine. He wished to state publicly that, as chairman of the Air Registration Board, under no circumstances would he allow that.

The Report

In his annual report for the year 1951-2, Mr Wilson first stressed the importance of the international work of the Council, which stemmed from its technical services.

As regards its publications, these had not only justified the expectations of the Council, but were proving to be one of its most valuable assets.

The report mentioned that work had been proceeding on the report to be issued by the OEEC Technical Assistance Mission regarding its visit to the U.S.A. to study petroleum equipment and it was hoped that it would be published before the end of the year. A further Intra-European mission to study petroleum equipment for refineries and oilfields is to be sponsored by OEEC and details will be published later.

Accompanying the chairman's report, there was a report by the Technical Advisor, Mr T. L. Bonstow, F.Inst.Pet., which gave details of the work carried out by the technical committees of the Council in regard to standardization of equipment and similar matters. It also listed inquiries which had been dealt with by the technical branch of the Council and this indicates the diversity of interests with which the Council is concerned.

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"Turbogrid" is a distillation tray of new design developed by Shell. Advantages claimed are reduction of maintenance and cleaning costs—without extra cost the trays can be supplied in stainless steel—and higher capacity, due to their simplicity and ability to permit a straight-through vapour-liquid counterflow in the column.

AROUND THE BRANCHES

FAWLEY, LONDON, NORTHERN, PERSIAN GULF, SCOTTISH, SOUTH EASTERN, SOUTH WALES, STANLOW, TRINIDAD

Fawley Branch

The opening meeting of the 1952-53 session was held at the Esso Recreation Club, Holbury, on 17 October. Mr. H. S. Gibson, President of the Institute, was the lecturer for the evening. Dr F. Mayo, Vice-Chairman of the Branch, introduced the Speaker, who then delivered his extremely interesting and detailed address on the Kirkuk-Banias pipeline. This talk was fully reported in the November 1952 issue of the *Inst. Pet. Rev.*, pp 396-7, when an account was given of Mr Gibson's visit to the South-Eastern Branch.

At the end of his lecture, Mr Gibson showed a film which illustrated the various phases of construction which he described in the course of his lecture. In conclusion, the lecturer answered a number of questions from the audience and the meeting closed with a vote of thanks proposed by D. A. C. Dewdney.

London Branch

On 30 October, at Manson House, the Branch, presided over by the Chairman, A. W. Deller, heard a paper entitled "Pioneering a refinery—the story of Cardon, Venezuela". The paper was presented by W. F. C. Mackie, manager of Shell Caribbean Petroleum Company's Cardon refinery, who was on a short visit to the U.K.

Building a refinery in undeveloped country presents many problems not normally encountered and Mr Mackie gave a very interesting description of the facilities necessary to such a project. Housing, hospitals, shops, post office, sports grounds, even a beauty parlour, had to be provided at Cardon in North Venezuela. Covering an area of 3000 acres, Cardon employs 3500 people of whom 95 per cent are Venezuelans. During the years 1945-9 a whole township has been planned and built up on the most modern lines, in what was originally desert country, to service the refinery and its personnel. Problems of climate and language had also to be overcome, and the magnitude of this latter difficulty could be appreciated when it was learned that people of 35 different nationalities are employed at Cardon.

In conclusion, Mr Mackie showed a number of excellent coloured slides of the refinery and associated buildings. The fine proportions of the larger buildings illustrated the thought and care which had been put into the whole project. The paper gave rise to a very lively discussion and revealed among the audience a number of oil men with overseas experience. A vote of thanks, proposed by J. Bell, himself a pioneer in Mexico, was carried with acclamation, and the customary informal dinner, at which the speaker was the guest of the Branch, terminated a very enjoyable evening.

Northern Branch

Thirty-six members visited the Barton installation of Shell-Mex and B.P. Ltd. on 15 October.

H. W. Humberstone, the installation manager, welcomed the visitors and briefly summarized the more important aspects and features of the installation. The party was then split into four groups and allocated to senior members of the Barton staff who acted as guides during the tour of the works.

The route included an inspection of the new lubricating oil plant, the grease plant, the reconditioning and package marking plant, as well as a short visit to the administration building, embodying the laboratory and general offices.

Particular emphasis was laid on the

Members of the Northern Branch at Barton lubricants plant.

principles adopted for the blending and compounding of lubricating oils at Barton, the pallet truck method of handling both full and empty containers, and the infinite flexibility of both production plants enabling them to cope with the varied demands of modern industry.

General information regarding the petroleum industry was available to the members in pamphlet and leaflet form, and opportunity was taken to inspect the scale model of the new semi-continuous grease making equipment which will be installed at Barton in 1953.

Following light refreshments, T. W. Ranson, in the absence of H. Ballard, Branch Chairman, thanked the Company and responsible officials for organizing such a thoroughly entertaining afternoon. F. Green in reply expressed the hope that all concerned had found something of interest in their visit.

Persian Gulf Branch
Bahrein Sub-area

On 19 September, the Bahrein Sub-Area of the Persian Gulf Branch held an "Any Questions" meeting which was attended by 21 members or applicants for membership and 9 guests.

A panel consisting of four men (C. R. Barkhurst, R. E. de Mestre, H. G. Russell, and L. A. Smith) well versed in the fields of refinery operating, petroleum engineering, research, and economics, with R. Godfrey (the Chairman) acting as "Question Master", answered a wide variety of questions passed to them from the audience.

Questions ranged from "What are the advantages and disadvantages of a foreign based compared with a domestic based oilfield" to such technical matters as "What conditions determine the optimum rate of production from an oil well" and "In what way do the characteristics of Middle East crude limit the scope of refinery products". The Chairman directed each question to those members of the panel best qualified to reply and then opened it for general discussion so that a most interesting and informative evening resulted.

South Wales Branch

At the second meeting of the session held at Llandarcy on 9 October, under the Chairmanship of J. A. Green, a lecture entitled "Application of electronics in the oil industry" was given by J. M. Keating, instrument engineer, National Oil Refineries Limited.

The speaker in his opening remarks discussed the difference between "electrical" and "electronic" and defined the latter as the study and application of circuitry dealing with small quantities of electricity.

The popular mind associates electronics with the intense research during the war concerning radar, but in 1942, electronics entered refinery practice and concerned itself with the measurement side of instrumentation.

Instrumentation is divided into two fields: 1. Measurement; 2, Automatic control.

Mr Keating illustrated his lecture with a clear example on temperature measurement using a thermocouple and galvanometer, showing how the electronic system proved neater, faster and smoother, and more accurate, than its mechanical predecessor.

Examples were given describing the advent of electronics into the field of automatic control, previously the province of pneumatic systems. It was explained that in the basic system for both pneumatic and electronic control, a fluctuation of the controlled variable is transmitted to a controller which monitors an air-operated diaphragm valve to maintain minimum deviation of the controlled variable. But whereas the pneumatic system is subject to appreciable time lag, the electronic system response is much faster and is unaffected by transmission distance. A description was also given of an electronically controlled SO_2 kerosine extraction plant, and of a graphic panel placed on a desk with the plant outlined in miniature on the panel and miniature edgewise indicating instruments situated in the appropriate panel unit.

The lecture ended with indications of probable development of electronic control employing Servo motor mechanism, giving greater valve response and therefore reducing time lag.

A spirited discussion followed which showed the audience was fairly well divided between the electronic school and the mechanical control school. Some criticism was levelled at the control desk device. The lecturer dealt very ably with the questions from both schools.

The vote of thanks was proposed by I. Cameron who praised the simplicity and clarity of the diagrams, and was seconded by E. J. Jones.

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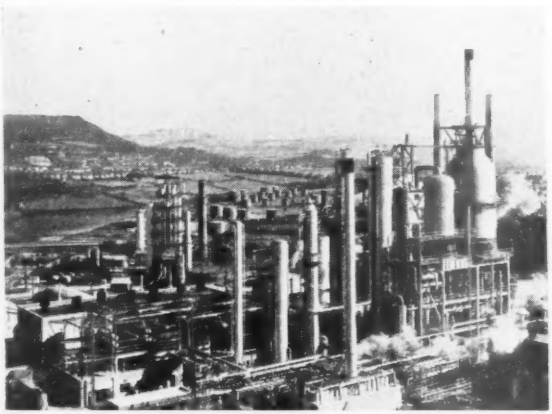


The Llandarcy refinery of Anglo-Iranian Oil Co. is now handling over four million tons of crude oil per year. The new catalytic cracking unit is seen in the foreground of this recent photograph. (An Anglo-Iranian photo.)

SMBP APPOINTMENTS

Head office marketing departments of Shell-Mex and BP Ltd. have been divided into a Retail Group under C. K. Stringer as assistant general sales manager, and an Industrial Group under H. Cunliffe, M.Inst.Pet., as assistant general sales manager. Departments and managers are:

Retail Group:

Kerosine—J. V. B. Harford
Retail Marketing—F. W. J. Scott
S.R. Development—A. L. Walsh, A.M.Inst.Pet.
Publicity—G. V. Nye
Automotive Lubricants—E. W. Paffard

Industrial Group:

Bitumen—A. R. de Beer
Consumer Trade—T. C. Bailey, M.Inst.Pet.
Fuel oil—R. J. Bressey, F.Inst.Pet.
Industrial and Marine Lubricants—F. J. Slee

A. C. Durie has been appointed deputy divisional manager, London Division, pending his becoming divisional manager on the retirement of A. R. Rodway.

R. D. Gibbs succeeds A. L. Walsh as secretary and law officer.

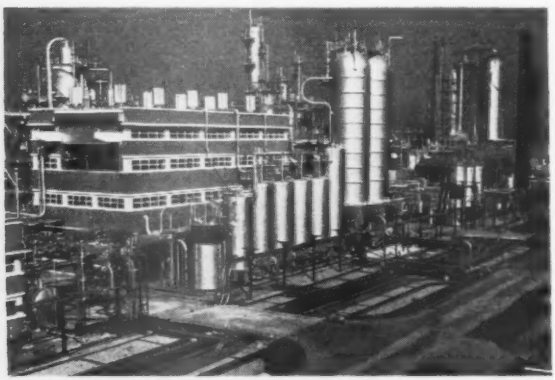
E. T. House has assumed the deputy general managership of Irish Shell Ltd. for a period of 18-24 months.

MOTORING and FARMING FILMS

Two annual film productions which are always looked forward to are issued by Shell-Mex and B.P. Ltd. The first is a motoring film, the premiere of which coincided with the London Motor Show. This year the subject was *Le Mans* 1952, and it is more than a race record for in this 30-minute film there are some excellent studies in expressions in close-ups of those who have lost and those who have triumphed. The night shots alone are worth seeing.

The second film is *Scrapbook No.* 4, this being in the series of cinemagazines for farmers. Among the five topics in this 20-minute film is a tour of Lord Lovat's cattle-raising project in the Scottish highlands; both scenery and cattle make a beautiful film. Other subjects are the Danish pig industry, N. Ireland's milk exports, labour-saving farm machinery, and the British Ploughing Association's competition.

With this second film was also shown the Shell Film Unit's production *Frost*. This is in effect a study of the movements of the cold air which does so much damage to crops and it illustrates how deep patches of cold air can be built up, due to natural and other obstructions, and how this air can be dispersed or warmed. This film also illustrates the remarkable patience of cameramen.



A general view of the main plant at the Dunkirk refinery of the Société Générale des Huiles de Pétrole B.P., French associate of Anglo-Iranian Oil Co. Ltd. Built on the site of a smaller refinery destroyed during the war, its two distillation units will have a capacity of 2 million tons per year. The catalytic reformer will produce 250,000 tons per year, and the lubricating plant 60,000 tons.
(An Anglo-Iranian photo.)

FORTHCOMING MEETINGS

THE INSTITUTE

Methods of Hydrocarbon Type Analysis. H. C. Rampton, B.Sc., F.R.I.C. (*Sunbury Research Station, Anglo-Iranian Oil Co. Ltd.*). At 26 Portland Place, London, W.1, 5.30 p.m. (*tea 5 p.m.*), 14 January.

Geophysics—Its Problems and Trends. D. T. Germain-Jones, B.Sc., Ph.D., D.I.C., A.R.C.S. (*Anglo-Iranian Oil Co. Ltd.*). At 26 Portland Place, London, W.1, 5.30 p.m. (*tea 5 p.m.*), 28 January.

Comments on Entry into Western Canadian Oil Operations. C. S. Lee, A.R.S.M., and R. O. Young, Ph.D. (*Trinidad Leaseholds (Canada) Ltd.*). At 26 Portland Place, London, W.1, 5.30 p.m. (*tea 5 p.m.*), 11 February.

Fawley Branch

Lubrication—Chemist or Engineer. E. A. Evans, M.I.Mech.E., F.R.I.C. At Esso Recreation Club, Holbury, 7.30 p.m., 19 December.

Annual General Meeting and Films. At Esso Recreation Club, Holbury, 7.30 p.m., 16 January.

London Branch

Film Evening. At 26 Portland Place, London, W.1. 6 p.m. (*tea 5.30 p.m.*), 18 December.

Petroleum Waxes. S. T. Minchin. At 26 Portland Place, London, W.1, 6 p.m. (*tea 5.30 p.m.*), 21 January.

Northern Branch

Film Show. At Warner's Theatre, Manchester. Followed by Hot Pot Supper. 16 December.

The Use and Character of New Chemicals from Petroleum. Dr E. S. Paice. At Engineers' Club, Albert Square, Manchester, 6.30 p.m., 20 January.

Scottish Branch

Annual General Meeting. Address by H. S. Gibson, C.B.E., M.A., M.I.Mech.E. At North British Station Hotel, Edinburgh, 8 January.

South-Eastern Branch

The Trend in Lubrication. B. A. J. Thoms (*Shell-Mex and B.P. Ltd.*). At Kings Head Hotel, Rochester. 7.45 p.m. 6 January.

South Wales Branch

The Scottish Shale Oil Industry. W. B. Peutherer, Ph.D., F.R.I.C. Joint Meeting with Royal Institute of Chemistry, S. Wales Section. At Training Centre Cinema, National Oil Refineries, Ltd, Llandarcy, 5.30 p.m., 8 January.

Stanlow Branch

Some Problems of Scaling Up. E. S. Sellers, M.A., M.Sc., A.M.I.Chem.E. Joint Meeting with Royal Institute of Chemistry. At Grosvenor Hotel, Chester, 7.30 p.m., 17 December.

Annual General Meeting followed by "Any Questions". At Grosvenor Hotel, Chester. AGM 7.30 p.m.; "Any Questions" 8 p.m., 20 January.

OTHER SOCIETIES

Report on Heavy Engine Oil Engine Working Costs, 1950-1. Diesel Engine Users' Association. At Caxton Hall, London, S.W.1, 2.30 p.m., 18 December.

Fuel Economy. W. A. P. Johnson, A.F.C., C.P.A., Royal Society of Arts. At John Adam Street, London, W.C.2. 2.30 p.m., 14 January.

Some Operating Experiences with Two Stroke Cycle Engines on Boiler Oil and the Development of Fuel Injection Equipment. A. G. Arnold. Institute of Marine Engineers. At 85 Minories, London, E.C.3. 5.30 p.m., 13 January.

Use of Rubber in Bituminous Road Surfaces. A. R. Smee and L. Mullins. Society of Chemical Industry (Road and Building Materials Group). At Building Centre, Store Street, London, W.C.1. 6 p.m., 15 January.

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Air compressor lubrication—No. 5 in the series of lubrication manuals being issued by Vacuum Oil Co. deals with the aspect of air compressors in two main categories—reciprocating compressors and rotary compressors. Containing 72 pages with excellent line diagrams, the book should be of interest, not only to the users of large machines, but also to those interested in the smaller types often used in garages. Copies are available from the company at Caxton House, Tothill Street, London, S.W.1. or from branch offices.

World Power Conference—Up-to-date information regarding the composition of 37 national committees of the World Power Conference are available in printed form from the British National Committee, 201-2 Grand Buildings, Trafalgar Square, W.C.2. The price of this 24-page document is 1s. 6d. post free.

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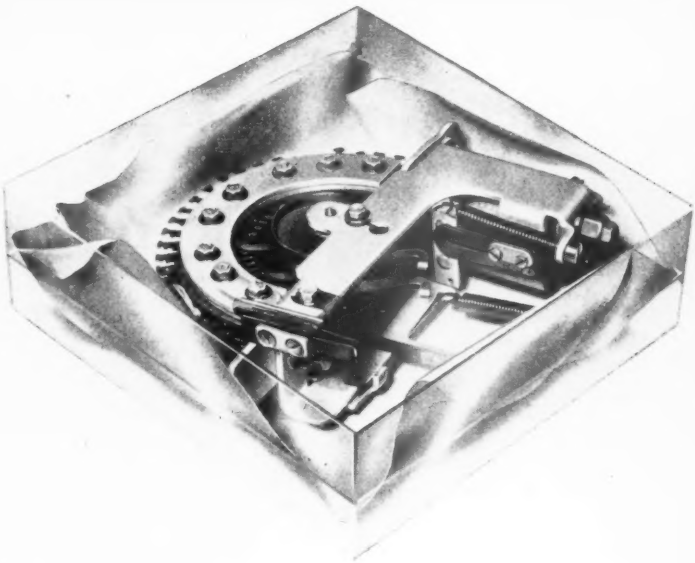

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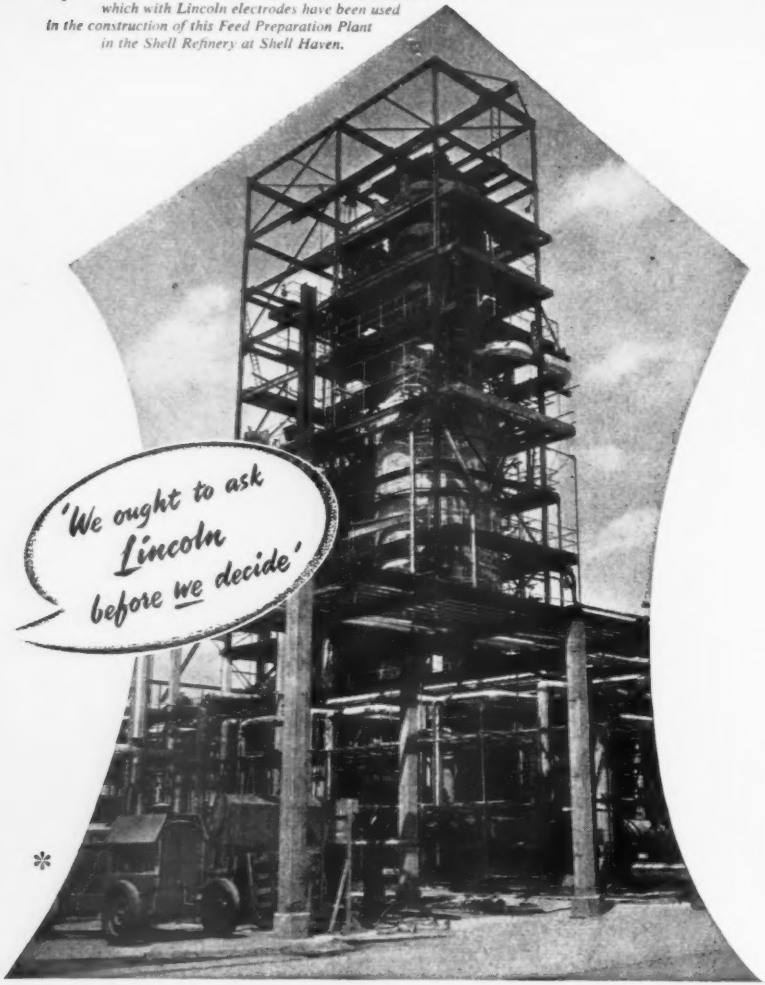

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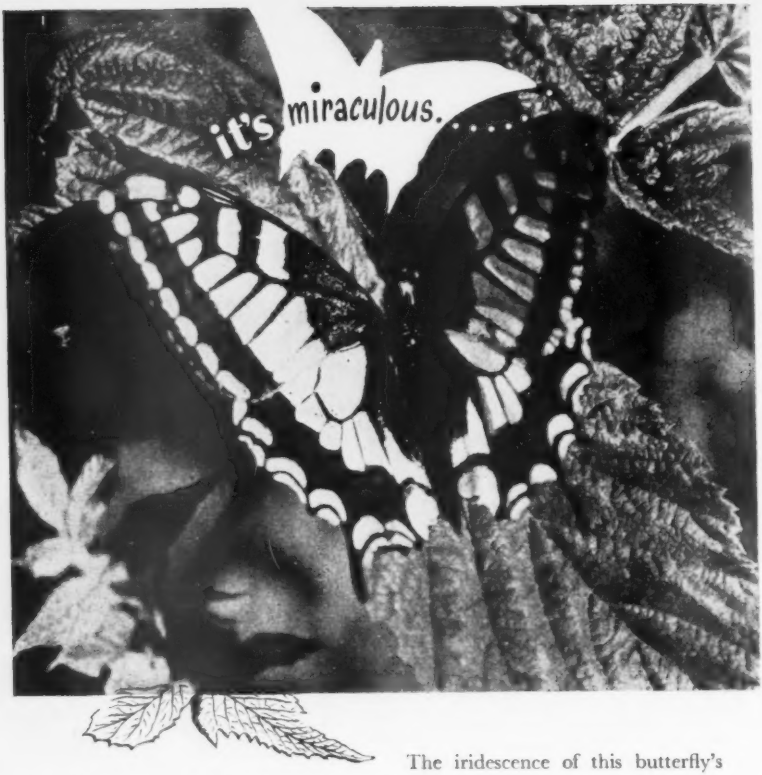

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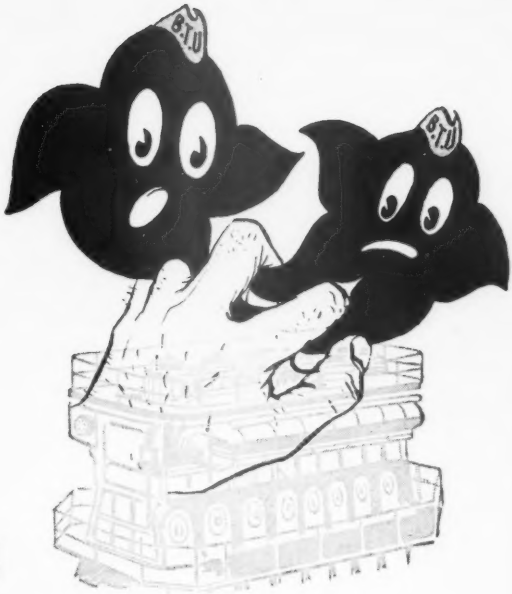

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